

REMARKS

A. Objection to Abstract

In the Office Action of June 2, 2005, the Abstract was objected to for not using proper grammatical sentences. Applicant traverses the objection in that they believe that the sentences are grammatically correct. Despite the impropriety of the objection, the Abstract has been amended to make reference to the method in several sentences. Accordingly, the objection should be withdrawn. If this objection is repeated, then Applicant invites the Examiner to propose an acceptable Abstract in order to expedite prosecution of the application.

B. 35 U.S.C. § 112, Second Paragraph

Claims 1-17 were rejected under 35 U.S.C. § 112, second paragraph, for being indefinite. In particular, claim 1 was rejected for reciting detector elements that generate a plurality of periodic scanning signals. The Office Action alleged that detector elements receive signals and do not generate signals. Applicant traverses the rejection. It is well known to one of ordinary skill in the art that detectors can generate electric signals in response to receiving signals from an object of interest. The electric signals are then used to interpret the signals received by the detectors. FIGS. 1-3 and 7-9 show examples of how such generated signals are used for interpretation of received signals. Since the claim is definite in meaning, the rejection is improper and should be withdrawn.

Despite the impropriety of the rejection, claim 1 has been amended to clarify that the arrangement of detector elements also scan the periodic incremental graduation. Since such scanning is implied from the language of the claims and the added language does not change the intended meaning or scope of the claim, the amendment is not being presented for reasons of patentability as defined in *Festo Corporation v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd*,

234 F.3d 558, 56 USPQ2d 1865 (Fed. Cir. 2000) (*en banc*), *overruled in part*, 535 U.S. 722 (2002).

Claim 12 was rejected for reciting “scanning a plurality of graduation periods of one incremental graduation by a detector arrangement.” Applicant traverses the rejection. It is well known to one of ordinary skill in the art that for certain methods of position measurement light emanating from a graduation is scanned by one or more detectors of a scanner that moves relative to the graduation. The detectors then generate signals representative of a position of an object. Since the claim is definite in meaning, the rejection is improper and should be withdrawn.

Claim 13 was rejected for reciting “said scanning results in the generation of a plurality of scanning signals phase-offset from one another within each graduation period of said measurement range.” Applicant traverses the rejection. The phrase is a complete phrase and is clear in meaning. Accordingly, the rejection is improper and should be withdrawn.

C. 35 U.S.C. § 102

1. Claims 1, 8, 10 and 11

Claims 1, 8, 10 and 11 were rejected under 35 U.S.C. § 102(e) as being anticipated by Mayer et al. Applicant traverses the rejection. In particular, claim 1 recites a position measuring instrument that includes “an evaluation device that receives said scanning signals and detects at least one scanning signal, modified by said reference marking, from said plurality of scanning signals.” The Office Action has relied on items 5, 6 of Mayer et al. as being an evaluation device. Such reliance is improper. Claim 1 clearly recites that the evaluation device receives scanning signals that were generated by an arrangement of detector elements. In contrast, items 5, 6 of Mayer et al. are photodetectors (Col. 4, l. 9) and not an evaluation device that receives

signals from an arrangement of detector elements. Accordingly, the rejection is improper and should be withdrawn.

Assuming for arguments sake that Mayer et al. discloses an evaluation device, such an evaluation device does not detect a scanning signal, from a plurality of scanning signals, that has been modified by a reference marking. Instead, Mayer et al. discloses distributing the fields B1 through B5 as well as the fields A1 through A3 of the reference marking R so that an optimal agreement exists at only a single position of the relative position of scale 2 and grating 3. Only in this single position does the at least one photodetector 7 receive a maximum of light and generate the reference pulse as an absolute position. (Col. 6, ll. 17-44)). Thus, Mayer et al. does not detect a signal modified by a reference marker from a plurality of scanning signals. Accordingly, the rejection is improper.

The rejection of claim 1 is improper for the additional reason that Mayer et al. fails to disclose an evaluation device that determines an absolute position of a reference marking “as a function of said detected at least on scanning signal” that is modified by the reference marking. In contrast, the reference marking of Mayer et al. defines an absolute position in such a form that a check is made as to whether the fields B1 through B5 and the fields A1 through A3 optimally agree and are positioned one above the other. In this position, the detector 7 detects a signal maximum. A predetermined absolute position is assigned to this location upon the occurrence of the maximum. Thus, the absolute position Mayer et al. is not determined as a function of a detected scanning signal modified by a reference marking. Accordingly, the rejection is improper.

Besides not being anticipated by Mayer et al., claim 1 is not rendered obvious by Mayer et al. since there is no suggestion in Mayer et al. or the prior art to alter Mayer et al. so as to use

an evaluation device that 1) detects a scanning signal, from a plurality of scanning signals, that has been modified by a reference marking and 2) determines an absolute position of a reference marking “as a function of said detected at least on scanning signal” that is modified by the reference marking. Without such suggestion, claim 1 and its dependent claims should be allowed.

The rejections of claim 10 and 11 are improper for the additional reason that Mayer et al. fails to disclose an absolute code that is parallel to and next to an incremental graduation (claim 10), wherein the absolute code “is a single-track sequential code with successive code elements” (claim 11). The Office Action asserts that item 1 of Mayer et al. is such a code. However, Mayer et al. discloses that item 1 is a grating that is in front of the scale 2 and so cannot be an absolute code.

2. Claim 12

Claim 12 was rejected under 35 U.S.C. § 102(e) as being anticipated by Mayer et al. Applicant traverses the rejection. In particular, claim 12 recites a method for position measurement that includes “detecting said at least one scanning signal, modified by said reference marking, from among said plurality of periodic scanning signals.” As stated above in Section C.1, Mayer et al. does not detect a signal modified by a reference marker from among a plurality of scanning signals. Accordingly, the rejection is improper.

The rejection of claim 12 is improper for the additional reason that Mayer et al. fails to disclose a method for position measurement that determines “an absolute position of said reference marking within said length of said measurement range as a function of said scanning signal detected” that is modified by the reference marking. As stated above in Section C.1, the

absolute position of Mayer et al. is not determined as a function of a detected scanning signal modified by a reference marking. Accordingly, the rejection is improper.

Besides not being anticipated by Mayer et al., claim 12 is not rendered obvious by Mayer et al. since there is no suggestion in Mayer et al. or the prior art to alter Mayer et al. so as to use a method for position measurement that 1) detects a signal modified by a reference marker from among a plurality of scanning signals and 2) determining the absolute position of Mayer et al. as a function of a detected scanning signal modified by a reference marking. Without such suggestion, claim 12 and its dependent claims should be allowed.

D. 35 U.S.C. § 103

Claims 2-7, 9 and 13-17 were rejected under 35 U.S.C § 103 as being obvious in view of Mayer and Keong. Keong was filed on July 9, 2003 and published on January 13, 2005. The present application was filed on September 23, 2003. Since Keong was not published more than one year prior to September 23, 2003, Keong qualifies as a reference under either 35 U.S.C § 102(a) or 35 U.S.C § 102(e).

The present application claims the benefit of the earlier filing date of September 23, 2002 based on German patent reference 102 44 234.7 under 35 U.S.C. § 119. In view of the certified literal translation being filed concurrently with the present Amendment, Applicant's claim has been perfected. Since the claims have an effective filing date of September 23, 2002, which is prior to the July 9, 2003 filing date of Keong, Keong does not qualify as a reference under either 35 U.S.C § 102(a) or 35 U.S.C § 102(e). Accordingly, the rejection is improper and should be withdrawn.

E. New Claims 18 and 19

New claims 18 and 19 recite that each of the detector elements is assigned its own corresponding location within the length of the measurement range. Thus, for example, a first detector is assigned a location x_1 and a second detector is assigned a second location x_2 . The claims further recite that the absolute position determined is one of the assigned locations. Mayer et al. does not disclose nor suggest such elements.

Note that claims 18 and 19 are being presented to provide additional protection for the position measuring instrument of claim 1 and the method of claim 12, respectively. Accordingly, the claims are being added for reasons not related to patentability as defined in *Festo*.

CONCLUSION

In view of the arguments above, Applicant respectfully submits that all of the pending claims 1-19 are in condition for allowance and seek an early allowance thereof. If for any reason, the Examiner is unable to allow the application in the next Office Action and believes that an interview would be helpful to resolve any remaining issues, she is respectfully requested to contact the undersigned attorneys at (312) 321-4200.

Respectfully submitted,



John C. Freeman
Registration No. 34,483
Attorney for Applicant

BRINKS HOFER
GILSON & LIONE
P.O. Box 10395
Chicago, Illinois 60610
(312) 321-4200

Dated: September 15, 2005